GET HEP! (OR IS IT HIP?)

Teachers and training administrators have a valid reason in the year 1967 for still being skeptical over many of the claims which have been made for Programmed Assisted Instruction (PAI) and Computer Assisted Instruction (CAI). We are still smarting and disturbed over some of the unconscionable claims made early in the last decade by the manufacturers of many of the "teaching machines" and the exorbitant prices charged for these almost useless big and little monsters. Some of the early publishers of "Self-Instructional Programs" were equally blameworthy. Too often these claims smacked of exhortations made at the turn of the century by hawkers of patent medicines at County fairs. Our position therefore is understandable if we say that PAI is as yet largely untested, unevaluated and unproven---up to a point!

In spite of our justifiable skepticism we educators of 1967 can no longer afford to ignore the growing number of instances where PAI has been tested, evaluated and proved to be successful. The most graphic illustrations of PAI success can be found in the training programs of U. S. industry. Though somewhat begrudgingly, "Big Business" in the USA is generally credited by the rest of the world with courageous enterprise, intelligent planning, technical skill, shrewd cost consciousness and the making of profits.

U. S. Big Business could have inspired, "Whatever Lola Wants, Lola Gets." In this case what U. S. industry wanted was a more efficient and effective way of training millions of employees in new skills, new concepts, new equipment, and the use of new information. To cope with what has been variously described as the "technological explosion" or the "new information explosion" of the last decade, industry sought a new medium of exploiting the changes which were taking place with unprecedented rapidity. Industry sought a method of employee training which was more effective and less costly than the little old red schoolhouse approach. It found at least a partial answer to the problem in PAI.

There follows a list of some of the better known U. S. firms which have used and are continuing to use PAI to meet their training requirements:[1]

[1] List selected from among the firms whose PAI courses are described by Gabriel D. Ofiesh in Programmed Instruction, A Guide for Management.

Aerojet-General Corp.
American Bankers Association
American Telephone and Telegraph Company
Atlantic Refining Company
Bankers Trust Company
Bausch and Lomb
Bell Telephone Laboratories
Burroughs Corp.
Carnation Company
Caterpillar Tractor Company
Chrysler Corp.
Dow Chemical Company
E. I. Du Pont de Nemours & Co., Inc.
Eastman Kodak Company
Esso (Standard Oil Co., New Jersey)
First National City Bank of New York
General Dynamics
General Electric Company
General Motors Corp.
Humble Oil Company
International Business Machines Corp.
Lever Bros.
Liberty Mutual Insurance Company
Maytag Corp.
Merck and Company
Montgomery Ward
Pfizer Laboratories, Inc.
Quaker Oats Company
Raytheon Company
RCA
Sperry Polaris
Timken Roller Bearing Company
Trans World Airlines
Union Carbide Chemicals Company
United Air Lines
Zenith Corp.

These are not fly-by-night outfits, the village corner drugstore, or the local pool hall. They're big, they're successful, and they've become so because they are efficient. It is unlikely therefore that they would use inefficient training methods or programs. In a "fun piece" of this length or depth I can't go into detail on the use of PAI in each of the training programs of the above mentioned firms. Generally speaking, the above reporting firms found PAI either significantly superior to conventional methods of training or equal to it in 6 ways:

1. Trainee time saved in class - significant difference.
2. Trainee travel time saved - significant difference.
3. i.e. cost of training saved - significant difference.
4. Attitude of trainee toward method of training - significant difference.
5. Effectiveness of training - degree of difference varied, but in majority of cases PAI was considered more effective.
6. Saving of instructor time - less significant difference.
7. Student retention after six months - no significant difference.

Perhaps the single most graphic compilation of comparative statistics was pulled together by Dr. Jerome P. Lysaught of The University of Rochester.[2] This is a wide-ranging review of 112 studies involving over 16,000 trainees and comparing self-instruction with conventional teaching. (See charts on page 4.)

To sum up, the above charts indicate that:

1. Programs are generally as effective, and frequently more effective than traditional teaching methods.
2. Programs are capable of producing comparable learning achievement on post-tests.
3. Programs quite frequently result in significant time-saving in terms of both student and teacher hours.
4. Self-instructional programs proved to be significantly superior in the case of adult learners.

But we who are or have been instructors in OTR may still be skeptical. We say, "All well and possibly good, but I don't teach a course in 'basic electronics,' 'allergy and hypersensitivity,' or the 'Titan II Weapons System.' Where is there the remotest relevance between the training by industry and the courses we teach in OTR?" A good point, well taken. There is little subject matter relevance between the industrial training courses discussed and the course objectives of OTR courses. But I contend that we shall never find complete subject matter relevance between courses designed to meet CIA training requirements and courses designed externally for external use. Not even in the clerical training field or foreign language training.

What I am suggesting is that we get hep or hip to the relevance of the PAI method of instruction to our training requirements. I suggest also that there is similarity between the training problems of industry and CIA. Both face the problem of training increasing numbers of people in increasing numbers of courses. Both face a shortage of qualified instructors. Both want to increase the effectiveness of training while at the same time decreasing the period the trainee is in training. Both want to cut the cost of training.

[2] Bulletin, The Clearinghouse on Self-Instructional Materials for Health Care Facilities, The University of Rochester School of Medicine and Dentistry, Vol. 1, No. 2, July, 1966.

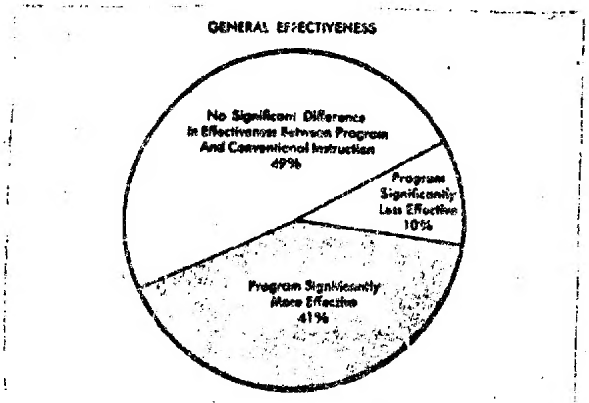

Figure 1. Comparison of Programmed and Conventional Instruction on General Effectiveness (Achievement + Efficiency).

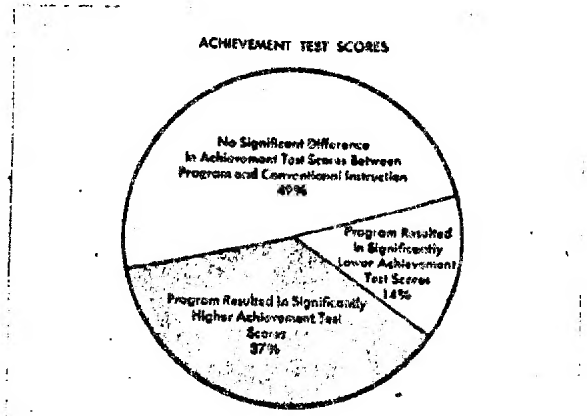

Figure 2. Comparison of Programmed and Conventional Instruction on Achievement Test Scores Alone.

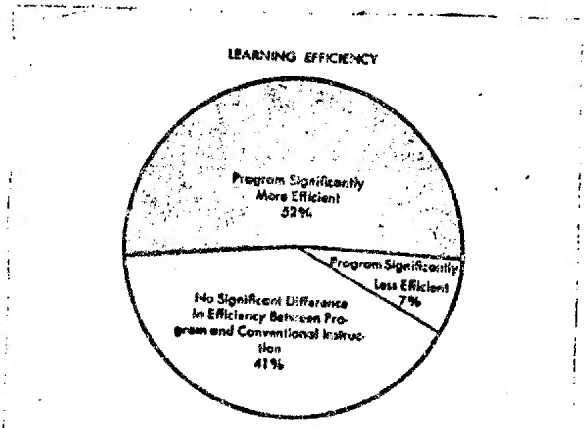

Figure 3. Comparison of Programmed and Conventional Instruction on Efficiency Measures Alone.

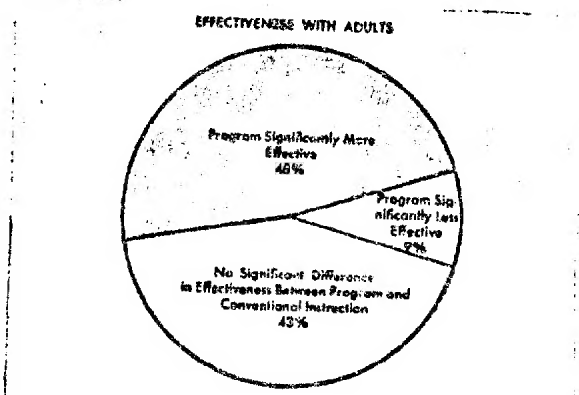

Figure 5. Comparison of Programmed and Conventional Instruction on General Effectiveness with Adult Learners Only.

If PAI is demonstrably helping industry meet these problems, I suggest finally, therefore, that CIA can no longer ignore PAI as a method of instruction. PAI, at the least, deserves a fair and objective trial. I don't expect Rome to be built in a day but I'd like to see us plan to lay the first brick in 1967. Dr. Samuel Johnson said a couple of hundred years ago,

> "Nothing will ever be attempted if all possible objections must first be overcome."

STATINTL

[redacted]